

Appl. No. 10/729,230
Reply to Office Action of March 11, 2005

REMARKS/ARGUMENTS

In claim 1, the limitation of "a wet method" in the original claim is changed to the intended wet methods "a precipitation method or a gelling method" as described on page 8, lines 12 - 15 of the specification, i.e.:

"Wet process silica according to the present invention, as described herein, refers to one which is synthesized by a precipitation method or a gelling method employing sodium silicate as a raw material."

The dispersing step of new claim 6 is supported by the description of Example 1 in page 32 of the present specification.

The limitation of the silica particles in new claim 7 is supported by the description in page 12, lines 14-17.

The addition of a cationic compound during the dispersion step as in new claim 8 is supported by the description of the preparation method of Recording Sheet 2-3, described in page 42, lines 11-17 of the present specification.

Also the claims are changed with respect to the reference to particles (plural form), as a clarification (see e.g. pages 5-6 of the specification).

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Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katoh et al. (US 2002/0130943) and 35 U.S.C. 102(e) as being anticipated by Ashida et al. (US 6773771).

Reconsideration of the rejections in view of the following is respectfully requested.

The silica particles of the amended claim 1 are prepared by a precipitation method or a gelling method, while Katoh describes that "colloidal silica" may be used as fine inorganic particles among many kinds of particles in paragraph [0096] of Katoh.

There are known 3 kinds of silica particles prepared by wet methods.

- (i) Colloidal silica;
- (ii) Precipitated silica; and
- (iii) Gelled silica (Silica prepared by gelling method).

Katoh describes to use the first type of silica prepared by a wet method.

Colloidal silica is characterized in that it stays mainly in a stabilized primary particle without forming an aggregated body. In other words, colloidal silica tends to be packed so tightly that it gives a small void ratio when applied to a coating layer.

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On the other hand, both precipitated silica and gelled silica required by claim 1, form a secondary aggregate via chemical bonds. The presence of this secondary aggregate having a secondary particle diameter of 10 to 300 nm distinguishes the silica required by the present claims from colloidal silica which does not have a secondary aggregates. However, the existence of the secondary aggregates is essential to the ink-jet recording sheet of the present invention in order to obtain the effects of the present invention.

Katoh requires fine particles to "yield high color density and forming small particles" (0093)); and discloses only "colloidal silica" which is different from the silica required by the present invention as noted above. There is no teaching nor suggestion to use precipitated silica and gelled silica, nor is there a suggestion that they might be interchangeable for the purposes of Katoh.

In order to prove unexpected superior effects of the present invention, the recording sheets of Katoh were evaluated. The evaluation results are shown in the executed DECLARATION enclosed herewith. As demonstrated by the data, the recording sheets of Katoh are inferior to the recording sheets of the present claim.

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Ashida, cited as anticipatory, discloses the use of both wet and dry process silica (col. 3, lines 22 - 40). They are precipitated silica and fumed silica, respectively.

However, Ashida focuses on fumed silica (col. 3, lines 52-53). The description about secondary particle having a size limitation of 50 to 500 nm (col. 4, lines 17-57) refers to fumed silica. Evidence that Ashida does not suggest the use of precipitated silica is shown in Examples of Ashida:

Ashida describes a composition of an ink-receptive layer in Example 1. As shown in Table 1, all of the recording sheets Nos. 1-13 use only fumed silica. There is no suggestion to use precipitated silica nor gelled silica in Ashida.

Ashida does not suggest that the precipitated silica having a secondary particle diameter of 10 to 300 nm required by claim 1 would give the effects of the present invention.

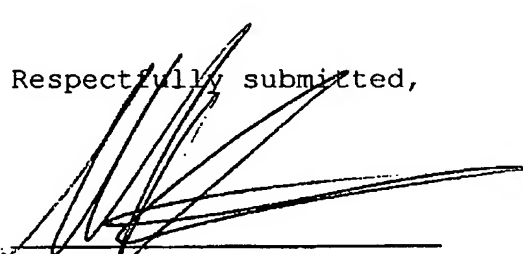
It is therefore submitted that Ashida does not anticipate the present invention nor does it render the present invention obvious.

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In view of the above, it is submitted that the present invention is not shown or suggested by the cited art. Withdrawal of the rejections and allowance of the application are respectfully requested.

Frishauf, Holtz, Goodman
& Chick, P.C.
220 Fifth Ave., 16th Floor
New York, NY 10001-7708
Tel. No. (212) 319-4900
Fax No.: (212) 319-5101
MJC/ld

Respectfully submitted,



MARSHALL J. CHICK
Reg. No. 26,853

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